



**State of New Hampshire
Department of Health and Human Services
Division of Public Health Services
Radiological Health Section**

Analytical X-Ray Inspection Guide

Administrative items:

- Registration is available and current
- Radiation Protection Program must include:
 - Name of Radiation Safety Officer (RSO), and RSO responsibilities
 - Annual review of Radiation Protection Program (RPP) - documentation for 3 years of reviews conducted by RSO or management/ownership
 - Training requirements for users of x-ray machines
 - Safe operating procedures
 - Personnel monitoring and annual dose limits
 - Dose limits to the public
 - Declared pregnant women and Exposure policy
 - Self-inspections/audits
- Instructions to Occupational Workers:
 - Information about devices in facility
 - Operating and emergency procedures provided
 - Precautions to minimize exposure
 - Functions of protective devices
 - Reporting any safety violations
 - Reporting for malfunctioning device
 - Annual safety refresher training documented
- Dosimetry Records – Entire dosimetry history must be maintained
 - Prior occupational dose record(s)
 - Dosimetry reports provided by request to employees upon termination
- Posting of:
 - RHS-5: Notice to Employees
 - CAUTION X-Ray EQUIPMENT sign nearby
 - Employees have access to the current version of the New Hampshire Rules for the Control of Radiation (NHRCR) either online or printed out
- Service records from a registered service provider– e.g. Maintenance, installation paperwork, calibration, annual radiation safety surveys etc.

Machine Requirements:

Analytical (Closed-beam) machine Requirements:

- Machine labels and indicators:
 - “CAUTION RADIATION – THIS EQUIPMENT PRODUCES RADIATION WHEN ENERGIZED” label
 - “On-Off” status indicator
 - “X-Ray On” sign illuminates when tube energized
 - If there is a shutter, an “Open-Close” status indicator is present
 - Label indicating the device model and serial number
- Annual Interlock Tests
- Annual Radiation Safety Survey
- Manufacturer User Manual available

Hand-Held XRF machine Requirements:

- Machine labels and indicators:
 - “CAUTION RADIATION – THIS EQUIPMENT PRODUCES RADIATION WHEN ENERGIZED” label
 - “On-Off” status indicator
 - “X-Ray On” sign illuminates when tube energized
 - If there is a shutter, an “Open-Close” status indicator is present
 - Label indicating the device model and serial number
- Annual Radiation Safety Survey
- Manufacturer User Manual available



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Analytical (Open-beam) machine Requirements:

- Machine labels and indicators:
 - “CAUTION RADIATION – THIS EQUIPMENT PRODUCES RADIATION WHEN ENERGIZED” label
 - “On-Off” status indicator
 - “X-Ray On” sign illuminates when tube energized
 - If there is a shutter, an “Open-Close” status indicator is present
 - Label indicating the device model and serial number
- Safety device present to prevent exposure to primary beam
- If no safety device present:
 - DHHS/RHS has granted an exemption
 - Users wear extremity dosimetry
- Annual Radiation Safety Survey
- Manufacturer User Manual available

Radiological Health Section (RHS) survey

- An RHS inspector’s machine survey will focus on:
 - General operability
 - Operator exposure rate measurements
- **NOTE:** An RHS inspector conducts a survey of your machine to verify that it is operating in compliance with the NHRCR. An inspection should not be considered as a routine survey of your machine. If there are any performance issues noted during the inspection, contact your service provider.

References:

- *New Hampshire Rules for the Control of Radiation (NHRCR):*
 - He-P 4019 - Notices, Instructions, and Reports to Workers; Inspections
 - He-P 4020 - Standards for Protection Against Radiation
 - He-P 4021 - Records, Reports, and Additional Requirements
 - He-P 4022 - Surveys and Monitoring
 - He-P 4034.17(d) – Training – Annual refresher training requirements
 - He-P 4034.33 – Copies of Operating and Emergency Procedures
 - He-P 4040 – Registration of Radiation Machines, Magnetic Resonance Imaging Machines and Providers of Services
 - He-P 4043 – Radiation Safety Requirements for Analytical X-ray Equipment
- *NHRCR can be found here:*
<https://www.dhhs.nh.gov/dphs/radiological/rules.htm>

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